

LISTING OF CLAIMS:

1. (Cancelled)

2. (currently amended) A piezoelectric element array (10) of the bimorph or monomorph type, for use as which is a basic unit of piezoelectric power generation, comprising:

- a plurality of flexible multiple rectangular thin film piezoelectric ceramic members each having a rectangular shape of substantially equal dimension with each member having opposite sides; elements (1) as set forth in Claim 1; and

a plurality of metallic electrodes disposed on each opposite side of each member closely conforming to the dimensions of the member upon which it is disposed;

a plurality of positive electrode plate(s) of good conductivity having a rectangular shape conforming in dimension to the dimension of the members and having a positive terminal extending from one end of each positive plate, with each positive electrode plate being positioned on one side of each member;

a plurality of negative electrode plate(s) of good conductivity having a rectangular shape conforming in dimension to the dimension of the members and having a negative terminal extending from one end of each negative plate with each negative terminal spaced from the position of the positive terminal on the positive plate, with each negative electrode plate being positioned on the side of each member opposite the placement of the positive plate;

wherein each thin film member has a positive and negative plate associated therewith to form an element set ;

a plurality of thin film insulating sheets;

~~—a (+) electrode made of a thin plate having good conductivity is given a shape close to said rectangular thin film piezoelectric ceramic element (1) and arranged at a first end or a second end of the rear side portion of said electrode plate (4);~~

~~wherein a second piece of said electrode plate (4) is flipped putting output terminal portion (5) at the opposite end, thereby designating said (-) electrode plate (4) as electrode plate (6) and output terminal portion (5) is flipped together as output terminal portion (7); a thin film insulation sheet is shaped as a rectangle to approximate the shape of said rectangular thin film piezoelectric ceramic element (1), thereby designating said thin film insulation sheet as insulation sheet (8);~~

~~wherein said rectangular thin layer piezoelectric ceramic element (1) is made into~~

~~an element set (9) by attaching a (-) electrode plate (6) on (-) electrode (3) to the lower surface thereof and a (+) electrode plate (4) on (+) electrode (2) to the upper surface thereof;~~

~~wherein multiple elements sets (9) are stacked in such a manner that insulation sheets (8) are placed between each and top and bottom of the sets at a top and bottom~~

end thereof to stabilize electric charge thereof; with the entirety of said sets are designated as the piezoelectric element array (10); and further comprising

spring-type plates for are adopted only on the top and bottom surfaces of said piezoelectric element array on a top and bottom surface thereof ; and the side where input or outputs terminal are present is used as stationary portion (11); thereby providing a basic unit of power generation.

3. A piezoelectric element array (12) comprising in which a multiple number of rectangular thin piezoelectric ceramic elements members (1) with each member having opposite sides and multiple electrodes disposed on each opposite side thereof and a positive and negative electrode plate of good conductivity associated with each ceramic element members and a positive and negative terminal extending from each of the positive and negative plates in a spaced apart relationship with each of the ceramic element members and the associated positive and negative plates being alternately arranged such that the negative - to the - are flipped alternately such that (-) electrodes (3) contact each other and while the positive electrodes (+) electrodes (2) contact each other; with a negative electrode plate (6) is inserted in the area where two negative (-) electrodes (3) contact each other and a positive putting input terminal (7) at the rear end; (+) electrode plate (4) is inserted in the area where two positive (+) electrodes (2) contact each other and having an putting output terminal (5) at the rear end; the surface of (+) electrode (2) which is on top of rectangular thin film piezoelectric ceramic element (1) is covered by a spring type insulation sheet (8), shaped in the same manner as element (1); connected the surface of (+) electrode (2) which is at the bottom of the flipped rectangular thin film piezoelectric ceramic element (1) is attached to spring type to a positive electrode plate (4) at one end of the array by pressure; and another insulation sheet (8) in contact with a negative electrode plate at the opposite end of the array is placed under (+) electrode plate (4), the side on which the input and output terminals are present, said side being utilized as stationary portion (13), which defines a basic unit for piezoelectric power generation.

4. (as currently amended) A piezoelectric element array as defined in claim 3 which utilizing a bimorph type piezoelectric element instead of the monomorph type as set forth in Claim 3.

5. (as currently amended) A power generation portion unit of the piezoelectric power generator comprising: a horizontal channel whose width is equal to the total thickness of either a piezoelectric element array (10) or (12); and a holding flange portion (15), which has a conduction circuit space (16) at the deep end of the channel so as to fully house stationary portion (11), an output terminal (5), and an input terminal (7); in conduction circuit space (16) are arranged an output electrical pickup plate (17) or an output electrical pickup line, and an input electrical pickup plate (18) or an input electrical pickup line, that are connected to an electrical circuit in a separate compartment; the stationary portions (11) or (13) of piezoelectric element arrays (10) or

(11) is secured onto holding flange portion (15) of mounting base (14); all output terminals (5) are connected to output electrical pickup plate (17) or an output electrical pickup line installed within conduction circuit space (16); all input terminals (7) are connected to input electrical pickup plate (18) or input electrical pickup line in a similar manner; wherein said power generation portion unit of the piezoelectric power generator has a movable side, which is the front side of piezoelectric element arrays (10) or (11), defined by said movable side of stationary portion (11) of piezoelectric element array (10) or stationary portion (13) of piezoelectric element array (12), wherein stationary portions (11) and (13) are secured to holding flange (15).

6. (original) A method of pressing the piezoelectric element of a piezoelectric power generator having a power generation unit for a piezoelectric power generator as set forth in Claim 5 wherein pressure element (20), which is parallel to the length direction but has a peak thereof along the center line of curvature, moves up and down causing said movable portion to push against and flex piezoelectric element arrays (10) or (12) of power generator (19).

7. (as currently amended) A power generation element array holding device for a piezoelectric power generator as set forth in Claim 6 of in which the a rectangular thin film piezoelectric ceramic element ~~{{4}}~~ further comprises ~~comprising~~ an upper curvature guide (21), provided on top of a holding flange portion of mounting base (14) for ~~of~~ said power generation unit of said piezoelectric power generator ~~as set forth in Claim 6~~; wherein said upper curvature guide (21) has the same length as the movable portion and the surface curvature thereof is equated with the surface curvature of pressure element (20).